

Cyber Security Careers



Roles, career pathways, resources & beyond



Flow Of The Talk

- Explore a few popular cyber security roles
- Share some good resources and tips to help you in your career.



Which one of these is a real cybersecurity job?

Selling drugs to
kids

Breaking into a
bank

Social engineering
your neighbour to
get the Wi-Fi
password

Hacking back
your FBI Agent



Some Amazing Security Roles

- Security Engineer
- SOC Analyst
- Malware Analyst
- Penetration Tester
- Red Teamer
- Digital Forensics & Incident Response (DFIR)
- DevSecOps
- Security Training & Awareness



Security Engineer

- Overview
 - ❑ Collaborate with the product development team to develop products in a secure way.
 - ❑ Work with developers to ensure products have good security standards / best practices.
 - ❑ Bring together knowledge for security and passion for coding
 - ❑ One of the core defensive roles, usually found in companies that develop their products



SOC Analyst

- Overview
 - ❑ Monitor threats to IT infrastructure of an organization, find weakness and suggest improvements.
 - ❑ Analysts are expected to be able to read, understand, and notify on cyber trends.
 - ❑ Act as "watchdogs" who look at IDS alerts, suspicious emails, network logs to get insight into an entity's network activity.
 - ❑ One of the most common entry-level roles



Malware Analyst

- Overview
 - ❑ Reverse engineer malwares and threats to understand how they work
 - ❑ Providing a thorough analysis and examination of a cyber security attack.
 - ❑ Sound understanding of security architecture and low-level hardware knowledge.
 - ❑ Must be up to date with the latest cyber-attacks and how they are performed.
 - ❑ Generally, a mixture of both offensive and defensive techniques in security.



Penetration Tester

- Overview
 - ❑ Analyze a product or service to see if there are any security flaws or not
 - ❑ Use real world exploits to see if the target is vulnerable
 - ❑ Good understand of web applications, networks and exploits
 - ❑ One of the most common cybersecurity roles



Red Teamer

- Overview
 - ❑ Emulate hackers – try to how hack how actual hackers would
 - ❑ Unlike Pen testers they come unannounced and replicate a real-world hacking scenario.
 - ❑ Often, they do hacking of physical assets too like breaking into a bank, office or store
 - ❑ Must have good knowledge of latest and the most complex of cyberattacks.



Digital Forensics & Incident Response (DFIR)

- Overview
 - ❑ Identifying, investigating, and remediating of cyber attacks.
 - ❑ They're the detectives who are sent in after a security incident happens.
 - ❑ Incident responders often have to go through lots of logs and data to find traces so good attention to detail is a good skill for the role



DevSecOps

Overview

- ❑ Moving the **responsibility** for security, ensuring it is fully integrated into every stage of the software development journey.
- ❑ Build tools and automation scripts that enable developers to easily consume security services delivered by the AppSec team.
- ❑ Has lots of overlap with cloud computing in the actual world
- ❑ Essentially automating security gates to keep the DevOps platform from slowing down.



Security Training & Awareness

Overview

- ❑ Form of education to equip members of an organization with the information they need to protect themselves and their organization's assets from loss or harm.
- ❑ Improve internal policies, making it easier to maintain compliance and track staff responses when incidents occur.
- ❑ Develop essential competencies and introduce new techniques and methods to tackle possible **security** issues.
- ❑ Training might range from tackling Phishing, ransomware, social engineering, browser security, etc.



Short Break - Q&A

Ask me anything!



General Tips For Beginners



What companies mainly look in you

- You passion for what you do / the industry
 - ☐ What activities you do outside of your studies
 - ☐ Your community involvement
- Your technical / conceptual knowledge
 - ☐ How much knowledge you possess of the target area or the role
 - ☐ Your communication & collaboration skills



Immerse yourself in the industry

- Attend meetups / conferences
 - ☐ They often have student discounts or scholarships
 - ☐ It is very important to increase your network
 - ☐ Put yourself out there – It will be difficult at first, I know
- Be part of the security clubs & community
 - ☐ Try to be on the committee – really pays off
- Podcasts, blogs & news
 - ☐ Great podcasts – Hacking into security, Risky Business, Darknet diaries
 - ☐ Blogs- Krebs on Security, Ars Technica etc.



Diversity & Inclusion

Cybersecurity industry has massive support for females and all non-binary people

- Dedicated Conferences such as 0xccc (<https://www.0xccc.sh/>)
- Dedicated free workshops : Haxx, She Hacks Purple etc.
- Security organisations : AWSN
- Scholarships: Google Techmakers, Grace Hopper scholarships etc.



Build your technical repertoire

- Watch YouTube, Twitch streams of TryHackMe, Hack the Box, CTFS, etc (<https://securitycreators.video/>)
- Take lots of notes!
- Practice your skills in TryHackMe, ImmersiveLabs, Hack The Box, Wargames
- Participate in CTFS by yourself with friends



Internships & Grad Roles - Overview

- Eligibility:
 - ❑ Internships – Penultimate (Second last) year
 - ❑ Graduate Roles – Last year
- Timeline:
 - ❑ Peak application season: February – June
 - ❑ Grad roles can also be found year round in varying amounts



Thank You!

Please ask any questions if you have.